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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,129	02/28/2007	Gennady Iraklievich Kiknadze	2133.128USU	9401

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OHLANDT, GREELEY, RUGGIERO & PERLE, LLP  
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STAMFORD, CT 06901

EXAMINER
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WALBERG, TERESA J

ART UNIT	PAPER NUMBER
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3744

MAIL DATE	DELIVERY MODE
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09/24/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/575,129	<b>Applicant(s)</b> KIKNADZE ET AL.	
	<b>Examiner</b> Teresa J. Walberg	<b>Art Unit</b> 3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20,25-38 and 40 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20,25-38 and 40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>4/7/06</u> . | 6) <input type="checkbox"/> Other: ____.  |

### DETAILED ACTION

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4 and 6-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Roberts (3,664,928).

Roberts discloses a device for transportation of a flowing medium and/or for heat exchange between a flowing medium and the device (Fig. 1), at least one surface (30 in Fig. 2) having a plurality of dimples (31), the plurality of dimples being arranged periodically (Figs. 6a, b, and c), the centers of three adjoining dimples forming an equilateral triangle (Fig. 6B), the distances between the centers of adjoining dimples having a constant value and the distance between two consecutive rows of the plurality of dimples having a second constant value (Fig. 6B), the plurality of dimples having a two dimensional edge (Fig. 2), the dimples (31) each including a section of a sphere or ellipsoid (Fig. 5A), the surface being provided as an inner surface of a transport channel (col. 2, lines 49-50), and the transport channel including a pipe (col. 2, lines 49-50). Note that the dimple structure would inherently cause vortices and reduce deposition of particles and ice.

3. Claims 1, 2, 4-13, 17, 25-28, 31, and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Koenig (3,231,014).

Koenig discloses a device for transportation of a flowing medium and/or for heat exchange between a flowing medium and the device (Figs. 5-7), at least one surface (45) having a plurality of dimples (36, 41, 46), the plurality of dimples being arranged periodically (Fig.6), the distances between the centers of adjoining dimples having a constant value and the distance between two consecutive rows of the plurality of dimples having a second constant value (Fig. 6), the plurality of dimples having a two dimensional edge (Fig. 5-7), the dimples each including a section of a sphere or ellipsoid (Figs. 5 and 5A), the surface being provided as an inner surface of a transport channel (Figs. 5-7), and the transport channel including a pipe (Figs. 5-7), the surface being a layer applied to a surface (see first paragraph of specification. Note that the dimple structure would inherently cause vortices and reduce deposition of particles and ice on the surface.

4. Claims 1-20, 25-38, and 40 are rejected under 35 U.S.C. 102(a) as being anticipated by the admitted prior art.

The applicants state in paragraphs 0006 and 0007 of the specification that it was previously known to use dimpled flow surfaces for flow of gas, liquids, or mixtures thereof (para. 0006), that it was known to use such structures for heat transfer surfaces (para. 0007), and that such surfaces produce improved heat

transfer (para. 0007). Applicants further state in paragraphs 0012 and 0020 that the form and arrangements of the dimples used in the present invention were disclosed by the prior art. Applicants state in paragraph 0012 that they surprisingly found that the use of this known structure caused reduced particle and ice deposition in comparison to other prior art structures. However, the discovery of a new property of a known structure does not cause the known structure to become patentable.

The fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

See MPEP 2112, portions of which are quoted below.

“[T]he discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art’s functioning, does not render the old composition patentably new to the discoverer.” *Atlas Powder Co. v. Ireco Inc.*, 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999). Thus the claiming of a new use, new function or unknown property which is inherently present in the prior art does not necessarily make the claim patentable. *In re Best*, 562 F.2d 1252, 1254, 195 USPQ 430, 433 (CCPA 1977). >In *In re Crish*, 393 F.3d 1253, 1258, 73 USPQ2d 1364, 1368 (Fed. Cir. 2004), the court held that the claimed promoter sequence obtained by sequencing a prior art plasmid that was not previously sequenced was anticipated by the prior art plasmid which necessarily possessed the same DNA sequence as the claimed oligonucleotides. The court stated that “just as the discovery of properties of a known material does not make it novel, the identification and characterization of a prior art material also does not make it novel.” *Id.*< See also MPEP § 2112.01 with regard to inherency and product-by-process claims and MPEP § 2141.02 with regard to inherency and rejections under 35 U.S.C. 103.

There is no requirement that a person of ordinary skill in the art would have recognized the inherent disclosure *at the time of invention*, but only that the subject matter is in fact inherent in the prior art reference. *Schering Corp. v. Geneva Pharm. Inc.*, 339 F.3d 1373, 1377, 67 USPQ2d 1664, 1668 (Fed. Cir. 2003) (rejecting the contention that inherent anticipation requires recognition by a person of ordinary skill in the art before the critical date and allowing expert testimony with respect to post-critical date clinical trials to show inherency); see also *Toro Co. v. Deere & Co.*, 355 F.3d 1313, 1320, 69 USPQ2d 1584, 1590 (Fed. Cir. 2004) (“[T]he fact that a characteristic is a necessary feature or result of a prior-art embodiment (that is itself sufficiently described and enabled) is enough for inherent anticipation, even if that fact was unknown at the time of the prior invention.”); *Abbott Labs v. Geneva Pharms., Inc.*, 182 F.3d 1315, 1319, 51 USPQ2d 1307, 1310 (Fed. Cir. 1999) (“If a product that is offered for sale inherently possesses each of the limitations of the claims, then the invention is on sale, whether or not the parties to the transaction recognize that the product possesses the claimed

characteristics.”); *Atlas Powder Co. v. Ireco, Inc.*, 190 F.3d 1342, 1348-49 (Fed. Cir. 1999) (“Because sufficient aeration’ was inherent in the prior art, it is irrelevant that the prior art did not recognize the key aspect of [the] invention.... An inherent structure, composition, or function is not necessarily known.”); *SmithKline Beecham Corp. v. Apotex Corp.*, 403 F.3d 1331, 1343-44, 74 USPQ2d 1398, 1406-07 (Fed. Cir. 2005) (holding that a prior art patent to an anhydrous form of a compound “inherently” anticipated the claimed hemihydrate form of the compound because practicing the process in the prior art to manufacture the anhydrous compound “inherently results in at least trace amounts of” the claimed hemihydrate even if the prior art did not discuss or recognize the hemihydrate).

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claims 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koenig (3,231,014) in view of Kiknadze et al (EP 0 679 812)(cited by applicants).

Koenig discloses a device for transportation of a flowing medium and/or for heat exchange between a flowing medium and the device, but does not disclose the curvature of the dimples. Kiknadze et al disclose that the dimple structure and curvature is known in the art. It would have been obvious in view of Kiknadze et al to use the claimed dimple structure in the heat exchange device of Koenig as a substitution of one known dimple shape for another.

7. Claims 18-20, 29, 30, 32, 34-38, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koenig (3,231,014).

Koenig discloses a device for transportation of a flowing medium and/or for heat exchange between a flowing medium and the device, but does not disclose adjacent dimples being arranged to form an equilateral triangle, dimples of different sizes, the layer having a side which is self adhesive, the dimples being formed by imprinting or molding, or the device being used in an air conditioning system.

Imprinting and molding are conventional methods of making shaped surfaces. It would have been obvious to one of ordinary skill in the art to use imprinting or molding to make the shaped surfaces of by imprinting or molding, the motivation being to accurately obtain the desired shape.

It would have been obvious to arrange to adjacent dimples in a triangular arrangement and to use dimples of different sizes, the motivation being to obtain a desired flow pattern based on the intended use of the device.

It is old and well known in the art to use heat exchange structure in an air conditioning system. It would have been obvious to one of ordinary skill in the art to use the heat exchange structure of Koenig in an air conditioning system, the motivation being to improve the heat transfer rate.

It is conventional in the art to use self adhesive layers to secure parts together. It would have been obvious to one of ordinary skill in the art to use a self-adhesive layer between the parts in the heat exchange layers of Koenig, the motivation being to more securely hold the parts in contact during use.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Teresa J. Walberg whose telephone number is 571-272-4790. The examiner can normally be reached on M-F 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Teresa J. Walberg/  
Primary Examiner, Art Unit 3744

/TW/